Journaling in a freshman general education math course for non-STEM majors

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Math 1003 College Mathematics

Appreciation (≠ like)

Quantitative literacy

Mathematics and Me

From the "President's Message" in the April/May 2015 issue of FOCUS
Francis Edward Su: (emphasis/underline added)

A second challenge is how **we change the public conversation** about who can do mathematics, and that is tied to the **public view of mathematics**. If the public saw math as an art that could inspire awe, they might clamor to experience it, rather than fear it. You don't have to be skilled at playing the piano to experience the beauty of a sonata. And you don't have to be a research mathematician to encounter the beauty of a mathematical idea.

Mathematics is an endeavor worthy of every human being. Yet many groups remain underrepresented in mathematics. We must address this—not just because our workforce needs it, not just because our economy will benefit, but because **every person deserves the opportunity to be inspired by mathematics**.

Francis Su really speaks for me in his quote because I am one of those people who never really looked for the beauty and art in Math. However he is correct in saying you do not have to be a mathematician to appreciate the concept.

Initially, I agreed with Francis Su's statement regarding the beauty of mathematics. Studying art the past two weeks has opened my eyes to how much math goes into every day life. People think math is all confusing formulas and numbers, when in reality, it surrounds our every day lives. I think that's where the beauty lies in mathematics. It's an iceburg subject; on the surface it is big scary numbers, but under the water there is a large mass of matter that nobody realizes exists. A mass the encompasses everything from how our bed is made to how airplanes are made. Math is art.

As much as I hate to admit this, mathematics isn't so bad, after all. Viewing John Edmark's amazing creations, I found myself in awe of the things that he could create with mathematical equations and geometrical shapes. From something as simple as the "Four-Legged Chair" to something as inherently beautiful as his "Blooms", there wasn't a single piece from Edmark's works that I didn't find interesting. After reading Francis Su's statement again, I honestly had to stop myself and think, deeply, on it.

My view on math has not changed much. I still find it interesting that art and math have a correlation with one another that I have never noticed before this class. I experienced artwork in a way I never have and I appreciate it. Francis Su's statement articulated the statement well. He wanted the reader to understand the importance of math and art and how today's technology is influenced by math.

This class is becoming more and more enjoyable to me. It's perhaps the most interesting math course I've ever taken. I'm really enjoying being able to write and to flex my literary muscles a bit. I'm also enjoying learning about all of these different things and writing papers over them. The Alhambra was a very interesting topic and I'm still watching those John Edmark videos. I even showed my mom and my girlfriend, smiling the whole time with wonder and watching her eyes light up and smile. She thoroughly enjoyed what I showed her, as she's really into art and creative things, and I would never have known about it if it weren't for this class.

One students' first post: I dont hate math but I also dont love math.

His/her last post: i am truly saddened because i really enjoyed your class this semester. Thank you for everything. I now like math

(excerpts from perhaps the longest post of the semester)

…only 7% of congressmen have a background in STEM literacy. Talking about congress, she pointed out the overwhelming amount of congressmen that believe global warming is not human's fault, when there is just as much scientific evidence proving that cigarettes harm nearly all organs in your body and cause cancer, a very widely accepted theory. The people we choose to represent us as a nation…….should be men and women who are STEM literate……

(excerpts from the longest post cont'd)

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Americans put trust in their politicians to protect them, when in reality, a large majority of them don't know what's up……..but maybe they don't know that they are STEM illiterate. This brings about another problem in society. The importance of literacy in math and science is not a widespread phenemenon……..when in reality, we are STEM illiterate and we don't even realize…… (if) citizens were STEM literate in a collection of fields, we would be more educated in forming opinions and officials of the United States government would be more knowledgeable because the United States as a whole would be better educated. In this perfect world of a STEM literate nation, citizens could feel better protected by their government because they could be more aware of what they are doing and their motives behind it. A more knowelageable nation leads to a more politically involved nation as well, meaning the citizens have a louder voice. Only good things can come to society by being STEM literate.

May god have mercy on my grade and my soul. I just need to pass this class and I will not have another math class in college…….I now know that my mind can be blown by a simple construct like a Koch snowflake. I've written a few papers on math, and I have done a lot of math on papers. I can't help but feel that this gauntlet of a semester has prepared me for more college classes that will come. Thanks Doctor Watson.

I am starting to see why math is so important in the “real” world, and it is exciting. I never thought I would say that I like math, but I do because I know it is so important. I can’t wait to see what else we do before the end of the semester.

This week was full of learning opportunities. I was most intrigued by my study of the Alhambra. I had studied it in my Spanish classes before, but I hadn't thought of the beauty as math. I have come to realize just how much of the world around me is math, and it is beautiful. I never thought in a million years that I would say that, but math is a magnificent, wondrous, incredible thing. However, it doesn't mean I like working on formulas. I just enjoy the idea that math is something as unique as it is, yet it is everywhere. I have enjoyed looking at M.C. Escher's works as well. I was used to the "Drawing Hands" picture, but now I can recognize that Escher was a genius when it came to combining art and math. I believe I can finally say, "You win math. Fair and square. You really are a brilliantly unique individual, and I believe we can be friends now that we have an understanding."

(beginning of semester) I have always had good feelings about math. From a young age I realized that it was something i not only was good at, but that I also enjoyed doing.... Dr. Duckworth describes grit as "sticking with things over the very long term, until you master them". I believe that grit is the most important thing in math. Not everyone can master something extremely fast.....we need the grit to be able to make it through that situation. Her talk has solidified how I felt about math and I am excited to see where this class will go.

(middle of semester) These last few assignments have actually changed my view towards math. However its not in a good way. These assignments are making me dread math and the homework that I have been assigned....

(end of semester) I am really glad that I took this class now, because even though I questioned it in the beginning, it has proven to be really beneficial. I have enjoyed my time in this class and will take what i have learned with me wherever i go, because it is somehting that I can use in my everyday life.

My over all outlook on math is still that I am not very good at it. Though this is the first time in my life that I can say I am actually enjoying learing about how math can relate to real world things and to learn about different things and not having to memorize formuals day in and day out.

In the two videos, the main focus, I believe, was to drive home the point that mathematics, or even STEM concepts, are becoming increasingly important and relevant in today's world.

When people say "I don't do math," that's just ridiculous. I'm not necessarily fond of mathematics, but I'm not going to say I don't do it and deny that I use it every day, that it is engrained in me. The video "I Don't Do Math" focused on the point that you don't have to be a scientist or a genius to understand and utilize aspects of STEM, and I do agree with that. If you aren't an expert on something, don't make up your pseudoscience and create fallacies to try to cover up your ignorance. Acknowledge your ignorance, understand it, and use that acknowledgement to learn. The second video talks about finding a safe place to store nuclear waste at places like Fukushima Nuclear Plant in Japan, and how mathematical models are used to compute the safest location for nuclear waste sotrage. This is yet another example of how deeply the roots of mathematics and our world today are entwined.

Questions or comments?

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